
Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Perishable Foodstuffs****Seventy-seventh session**

Geneva, 26-29 October 2021

Item 4 (f) of the provisional agenda

Status and implementation of the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage**(ATP):****Interpretation of ATP**

25 October 2021

English

Discussion document on transition to battery-powered refrigeration**Transmitted by the Government of the United Kingdom**

1. For many years the dominant energy source for independent vapour compression refrigerating appliances has been diesel with either the engine driving the refrigeration compressor directly or indirectly. Diesel is readily available at refuelling sites across the world. In this respect the limiting factor, with regards ATP, is the refrigerating capacity of the appliance with the carriage, availability and quick replenishment of diesel taken for granted.
 2. By contrast a liquefied gas system is limited by the amount of refrigerant which can be transported with it which is not commonly available, requiring specialist filling at a relatively small number of suitably equipped sites. Annex 1, Appendix 2, part 9.2.1 requires the liquefied gas tank to be large enough so that it "allows a complete test without intermediate refilling" during calorimeter testing. Annex 1, Appendix 2, part 3.1.3(c) prohibits additional refrigerant to be loaded during a 12-hour temperature control test for appliances already installed into equipment. Here, the endurance of the system is the limiting factor in ATP.
 3. Mechanically refrigerating appliances whose energy source is an electrical battery the endurance is limited by the capacity of the battery. Battery operated refrigeration have, from an ATP perspective, no requirements on endurance despite this being a key limitation.
 4. Should battery powered systems have an endurance requirement similar to that of liquefied gas systems?
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